

DATE: October 20, 2005

Memorandum

TO: Robert Smith, U.S. Army Corps of Engineers;

Terry Dean, U.S. Army Corps of Engineers; Janet Stuckrath, U.S. Fish and Wildlife Service;

Tamara Spear, California Department of Fish and Game; Elizabeth Goldman, Environmental Protection Agency; Chris Means, Regional Water Quality Control Board

Jerry Backoff, City of San Marcos

cc: Dave Shepherd, KB Home Coastal, Inc.

FROM: Susan Erickson, Stephanie Gasca

RE: UPDATED PROJECT DESCRIPTION FOR THE PROPOSED SAN MARCOS HIGHLANDS PROJECT, CITY OF SAN

MARCOS, CALIFORNIA

PCR Services Corporation (PCR) has prepared this Letter Report to assist with the preparation of the regulatory permits for the proposed San Marcos Highlands project, City of San Marcos, California (Site). Please accept this Letter Report and attachments as an update to the project description presented in the Public Notice (200100479-SKB) (Figure 1, *Regional Map* and Figure 2, *Vicinity Map*, attached). This Letter Report addresses:

- 1. The culvert and wildlife crossing under Street A discussed during the meeting held on July 21, 2005 with the U.S. Army Corps of Engineers (ACOE) representative Robert Smith, California Department of Fish and Game (CDFG) representative Tamara Spear, Regional Water Quality Control Board (RWQCB) representative Chris Means, and U.S. Fish and Wildlife Service (USFWS) representative Janet Stuckrath and during the on-site meeting with Tamara Spear, CDFG Associate Wildlife Biologist Randy Botta, and Chris Means held on July 28, 2005.;
- 2. Concerns raised over potential sediment contamination in the large pond during a Community Meeting with Robert Smith of the ACOE held on August 18, 2005;
- 3. The existence of several infrastructure easements within the upper reaches of Agua Hedionda Creek (the "Creek") and their affect on the proposed mitigation and conservation easement, as well as the placement of the created wetland, addressed on September 30, 2005 during a meeting with Chris Means, Bob Morris (RWQCB), Tamara Spear, and Robert Smith.

Thus, the following items presented below are in response to the agency recommendations made during the above-listed meetings: an updated project description (including clarification regarding the current design of the culvert under Street A and the decision not to use any dredged material from the large pond), proposed impacts (including temporary, permanent, direct and indirect), proposed mitigation measures (including on and off-site restoration and preservation), and areas to be placed under a conservation easement. Receipt of this information shall assist the ACOE in responding to public comments, the USFWS in preparing a project description amendment to the Biological Opinion, and the CDFG and RWQCB in preparing a draft Streambed Alteration Agreement and 401 Water Quality Certification, respectively. With respect to the Biological Opinion amendment, the changes presented

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herein do not alter the level of potential impacts to the coastal California gnatcatcher (*Polioptila californica californica*) or least Bell's vireo (*Vireo bellii pusillus*). Furthermore, changes related to enlarging the culvert under Street A are beneficial and were made at the discretion of the ACOE and CDFG.

OVERVIEW OF CHANGES

- The total area of the Site was originally described as "approximately 203 acres". The Site area has been revised with additional property line and topographic surveys, recently completed, and is now identified as being 204.5 acres in size. Similarly, the acreage of the adjacent off-site mitigation parcel to the northwest was refined from 21.9 acres to 22.8 acres.
- The Public Notice described "approximately 123.1 acres" of the Site will be preserved as open space, "of which approximately 109.3 acres can be considered natural open space." Due to minor project revisions and refined survey data, on-site open space will total 124.5 acres, of which 111.3 acres will be considered natural open space.
- With respect to the culvert under Street A, the regulatory agencies expressed at an all-agency meeting on July 21, 2005 that minor impacts to the Creek, including wetlands, would be acceptable in exchange for a larger culvert. Subsequently during the July 28, 2005 site meeting, it was agreed upon that the proposed 8-foot culvert over the Creek would be engineered to be 10 feet in height and would include a low flow channel, eliminating the need for a secondary culvert to convey water. Associate Wildlife Biologist Randy Botta of the CDFG felt this design would be adequate to allow mule deer to pass through. Thus, the refined proposed project involves replacing the earthen dam in the Creek with a single arched culvert that is 10 feet high, 12 feet wide, and 159 feet long to allow for the flow of water and wildlife movement.
- Temporary, construction-related impacts, which include a buffer around the limits of grading, have been increased from 10 feet to 20 feet in order to accommodate maneuvering the large, earth-moving equipment where needed.
- Jurisdictional impacts have been revised. Minor revisions have been incorporated into the project design to address concerns raised during the review process (e.g. modified limit of grading, realignment of the fuel modification zone, 10-foot culvert design etc.), and data collected during an additional site survey. The revised impact values reflect more accurate site conditions as well as the most current project design. The revised impacts do not alter the existing permit application status of the project. These impact revisions include the following:
 - O Total ACOE/RWQCB impacts increased from 0.75 acre (0.71 acre permanent and 0.04 acre temporary) to 0.80 acres (0.74 acre permanent and 0.06 acre temporary).

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- Total CDFG impacts are 1.38 acres. However, permanent impacts have decreased from 1.26 acres to 1.22 acres and temporary impacts have increased from 0.10 acre to 0.16 acre.
- 0.05-acre of wetland creation will be established within the upland eucalyptus removal zone immediately adjacent to the stream corridor of the Creek. The area of wetland creation has been designed and incorporated within the project to address agency concerns and to ensure a "nonet-loss" of wetlands on the Site. The placement of the wetland has been chosen such that it satisfies the ACOE, RWQCB, and CDFG "wetland creation" definitions (as discussed during the September 30, 2005 meeting).
- The dredged pond material will not be re-used within the project site. As such, sediment dredged from the pond will be properly disposed of and clean topsoil collected from upland areas within the development footprint will be used in construction and mitigation activities requiring fill or topsoil amendments.
- All mitigation areas will be preserved in perpetuity and managed under a conservation easement. Separately, 2.3 acres of enhanced riparian habitat in the upper reaches of Agua Hedionda Creek lie within an area occupied by several infrastructure easements. While it is likely that the easements may never be executed, their presence precludes the 2.3 acres from being preserved "in perpetuity" and thus must be excluded from the conservation easement. Nevertheless, KB Home Coastal, Inc. will provide funds to maintain the ecological integrity of riparian zone where the Vista Irrigation District pipeline easement crosses the Creek.

PROJECT DESCRIPTION

The project consists of the subdivision of approximately 80 acres into 191 single-family lots, including associated fuel-modification zones, graded slopes, minor roads, 4.7 acres for the extension of Las Posas Road, and 1 acre for an active-use park. In addition, approximately 124.5 acres will be left as open space, of which approximately 111.3 acres qualify as "natural open space," largely in the form of Diegan coastal sage scrub (DCSS) habitat, and secondarily in the form of riparian habitat along the Creek. Natural open space will constitute approximately 54 percent of the Site. However, with the purchase of the two parcels immediately adjacent to the Site for preservation and additional restoration, the total mitigation for DCSS is 202.7 acres. With the inclusion of these adjacent parcels, natural open space will constitute 67 percent of the area encompassing the Site and two mitigation parcels. The mitigation is discussed in more detail below.

The proposed project also involves replacing the earthen dam in the Creek with a single (10-foot) arched culvert while fully restoring the streambed with riparian vegetation. The culvert is designed to be 10 feet high, 12 feet wide, and 159 feet long and will allow water flow (by means of a low flow diversion within the culvert) and wildlife movement. "Wings" will be located along the outside edges of the culvert to guide wildlife into the culvert and prevent them from crossing Street A. Rip-rap will be placed at either

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end of the culvert to prevent scour in the Creek at the outlet location. Rip-rap will also be located at the western edge of the Creek south of Street A for slope scour protection. There will be a buffer between the rip rap and the outlet of the 48" pipe culvert that enters the Creek on the west. Several other areas will support a small amount of rip-rap and are included in the calculation of permanent impacts.

With respect to removal of the large pond during mitigation activities, accumulated silt and debris will be removed from the pond bottom to expose the original surface. Due to the possibility that this material is contaminated, and therefore potentially not suitable for discharge into ACOE "waters of the U.S.," it will not be re-used for mitigation or any other project-related use. Instead, the pond will be drained through an active pump system to allow de-watering to occur within the existing pond site. This avoids the need to stockpile and contain material in an upland area for the duration of the dewatering process. Following the de-watering period, the material will be disposed of in an appropriate location. KB Home Coastal, Inc. proposes to place rock fragments derived from the excavation and crushing of weathered granite rock in other areas of the site into the former pond site. The rock material will be covered with a 2-foot layer of screened rock fines soil material (approximately 3/4 inch diameter particles and minus in size), also derived from crushed rock. This material will be capped with a 12-inch layer of clean topsoil as a necessary soil amendment to establish vegetation. The topsoil material will be salvaged on-site from the topsoil collected during initial construction activities within the development footprint. All topsoil gathered from within the construction area for project-related uses, including restoration purposes, will be stockpiled within the limits of grading or the adjacent temporary impact buffer. Due to the availability of this on-site material, importation of fill material is not anticipated.

The proposed east-west wildlife corridor along the northern property boundary will provide connectivity for wildlife between large expanses of open space to the northwest and southeast. The width of the corridor ranges from approximately 400 feet to 450 feet in width. The width at several points along the proposed corridor is indicated in Figure 3, *Proposed Development Plan and Wildlife Corridor*, attached. In addition, the preservation and complete restoration of riparian and wetland habitat within the Creek (described below) would allow for long-term bird and other wildlife movement up- and down-stream, as well as to the open space to the east. The project design will include lighting that faces away from the open space, fencing of backyards and a 6-foot-high block wall on site along the wildlife corridor that will discourage domestic animals from utilizing the open space areas. In addition, the Homeowner's Association will distribute educational information to the future residents regarding wildlife sensitivity.

Fuel modification zones will be established (and considered permanent project-related impacts) to buffer the proposed residential housing project from fire threats associated with the adjacent natural open space. With the exception of the portion of the development that abuts the east-west wildlife corridor, the fuel modification zone will extend a total of 150 feet from building structures. Along the wildlife corridor, the fuel modification requirement has been reduced to 100 feet (10 foot side yard set back plus 90 feet of fuel modification setback) with the inclusion of a 6 ft. high block wall at the end of the zone.

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PROPOSED IMPACTS

Jurisdictional Wetlands, Waters and Streambeds

Current grading plans would require that a number of ephemeral stream segments located within the project site be filled using native material, and permanently culverted below ground, to facilitate construction of the project as proposed. Impacts to the Creek as a result of the proposed project include the removal and rebuilding of an existing earthen dam/road crossing over the Creek, along with impacts to be incurred by the proposed alignment of Las Posas Road. These permanent impacts to the Creek will total approximately 0.05 acres of ACOE/RWQCB jurisdictional wetland "waters of the U.S." and approximately 0.33 acre of CDFG jurisdictional streambed and associated riparian habitat, which will be mitigated on-site. Permanent impacts to jurisdictional features across the Site as a whole would result in the fill of approximately 5,588 linear feet of streambed, totaling approximately 0.74 acre of ACOE/RWQCB jurisdictional "waters of the U.S.," (of which 0.05 acre are wetlands), and approximately 1.22 acres of CDFG streambed and associated riparian habitat. See Table 1, *Permanent Impacts to Jurisdictional Areas*, on page 6 and Table 2, *Permanent Jurisdictional Impacts by Feature Type*, on page 7 for a breakdown of impacts. Tables 1 and 2 of this Letter Report have been revised and are intended to update Tables 1 and 2 presented in the April 14, 2004 Updated Project Description memo prepared by PCR.

Temporary, construction-related impacts, which encompass a 20-foot buffer around the limits of grading, would include approximately 0.06 acre of ACOE/RWQCB jurisdictional "waters of the U.S." and 0.16 acre of CDFG jurisdictional streambed and associated riparian habitat. Figure 4, *Proposed Impacts to Biological Resources*, attached, shows the locations of ACOE/RWQCB jurisdictional "waters of the U.S." within the project boundary. Wetlands are limited to the ACOE/RWQCB jurisdictional streambed of the Creek, on-site. All remaining ACOE/RWQCB jurisdiction constitutes non-wetland "waters of the U.S." in the form of multiple ephemeral drainages, and an intermittent tributary to the Creek, which runs along the northeastern project boundary.

Plant Communities

Three on-site plant communities can be considered sensitive resources: freshwater marsh, southern willow scrub (SWS), and DCSS. Permanent impacts to freshwater marsh habitat include 0.03 acre as a result of the proposed project. Permanent impacts to SWS, which occurs within the Creek, total 0.31 acre and are contained within the permanent impacts to CDFG jurisdictional riparian habitat within the Creek. These impacts are associated with the removal of the pond and replacement of the existing earthen dam with a 10-foot arched culvert which will reestablish connectivity of the Creek and accommodate the construction of Street "A," a single road crossing over the Creek. In addition, a small portion of these impacts is the result of the alignment of Las Posas Road in one location. A total of 73.1 acres of DCSS will be removed as a result of the proposed development. No off-site permanent impacts to DCSS are anticipated to result from fuel modification zones. Permanent impacts to on-site plant

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Table 1
Permanent Impacts to Jurisdictional Areas

Drainage System	Impacts to ACOE (linear feet)	Impacts to ACOE (acres)	Impacts to CDFG (acres)
Agua Hedionda Creek	23	0.05 (0.05) ^a	0.33
A1	1,251	0.15	0.35
A2	1,776	0.27	0.27
A3	2,526	0.27	0.27
A4	12	<0.01 b	<0.01 b
Total	5,588	0.74 (0.05) °	1.22 °

^a Wetland acreage is in parenthesis and are not additive.

Source: PCR Services Corporation, August 2005.

communities are summarized in Table 3, *Permanent Impacts to Plant Communities*, on page 8. Temporary impacts include 0.14 acre of SWS and 2.88 acres of DCSS.

In addition to the direct impacts associated with habitat loss described above, indirect impacts to both upland and wetland plant communities may include edge effects such as the introduction of non-native plants, increased irrigation and surface water runoff, and potential contamination by pesticides used by residents. Freshwater marsh and SWS may be more susceptible than DCSS to surface runoff due to their location downgrade. Nevertheless, these indirect impacts have the potential to affect native vegetation on site and will be mitigated as described below.

PROPOSED MITIGATION MEASURES

A 2:1 mitigation ratio for permanent impacts to DCSS will be accomplished through on-site preservation of approximately 106.2 acres and restoration of approximately 7.2 acres of DCSS on-site. In addition, there will be an easement for off-site preservation of approximately 4.7 acres directly north of the site which will be restored to DCSS, and the purchase of approximately 22.8 acres of DCSS-dominated habitat immediately off-site and adjacent to the northwest and another 61.8 acres of DCSS-dominated habitat off-site and contiguous with the eastern project boundary (Table 4, *Summary of DCSS Mitigation*, on page 9). On November 15, 2004, PCR biologists field verified the occurrence of plant communities on these adjacent mitigation parcels. The 22.8-acre parcel is comprised of

Numbers represented as < 0.01 were calculated using the actual data collected in the field and are represented in the Total.

^c The various jurisdictional acreages often overlap, i.e., ACOE acreage is typically included in CDFG, and therefore are not additive.

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Table 2
Permanent Jurisdictional Impacts by Feature Type

Type of Jurisdiction	Total Existing Acreage On- Site	Development Impacts ^a	Fuel Modification Zone Impacts ^b	Total Permanent Impacts
ACOE/RWQCB	4.32	0.69	0.046	0.74
Large Pond/Wetland	2.19	0.03	< 0.01	0.03
Small Pond/Wetland	0.22	0.01	< 0.01	0.01
Other Drainage A (wetland)	0.44	0.01	< 0.01	0.01
Drainage A1 – A4 (non-wetland)	1.47	0.64	0.046	0.69
CDFG	10.01	1.17	0.045	1.22
Vegetated (SWS) -Agua Hedionda Creek	8.28	0.33	0.00	0.33
Non-vegetated (DCSS) – A1 through A4	1.73	0.84	0.045	0.89

a Lot & Road Development (entire grading limit).

Source: PCR Services Corporation, August 2005.

approximately 22.6 acres of high quality DCSS and 0.2 acre of disturbed areas (Figure 5, *Proposed Restoration*, attached). The 61.8-acre parcel (Parcel D) supports approximately 61.1 acres of high quality DCSS and 0.7 acre of disturbed areas (Figure 5, *Proposed Restoration*). The DCSS within the 22.8-acre parcel has a higher occurrence of coastal prickly pear (*Opuntia littoralis*) due to the southeast-facing slopes. Conversely, the composition of the DCSS within Parcel D shows an increase in abundance of laurel sumac (*Malosma laurina*). Despite these slight differences in DCSS composition, both parcels support DCSS habitat comparable to that which occurs on-site.

The proposed off-site conservation easement adjacent to the northern property boundary will be placed on approximately 4.7 acres following the purchase by KB Home Coastal, Inc. from the current owner. Although the property has not yet been formally acquired, the owner has conceptually agreed to the purchase by KB Home Coastal, Inc. for preservation and the Biological Opinion has been conditioned to require this. This area will require removal of exotic species, seeding with native species, and/or spreading of DCSS duff for preservation that will allow the project to maintain a minimum 400-foot wide wildlife corridor. In addition, approximately 7.2 acres of the Site have been identified as either disturbed or proposed temporary impact areas that will be targeted for DCSS restoration.

All unavoidable, permanent impacts to ACOE, RWQCB, and CDFG jurisdictional areas will be mitigated at a ratio of no less than 2:1 and will be initiated concurrent with the first grading activities. Total on-site compensatory mitigation will be approximately 2.4 acres of ACOE/RWQCB "waters of the U.S." and 4.7 acres of CDFG riparian habitat (see Table 5, Summary of Compensatory Mitigation, on

b Fuel modification zone impacts that extend beyond the grading limits.

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Table 3

Permanent Impacts to Plant Communities Total Fuel Existing Modification Total Acreage On-Development Zone Permanent Impacts b Plant Community Site Impacts ^a **Impacts** Diegan Coastal Sage Scrub 175.56 62.83 10.3 73.13 Southern Willow Scrub 4.48 0.31 0 0.31 Mule Fat Scrub 0.11 0 0 0 **Emergent Marsh** 2.36 0.03 0 0.03 0 0.31 Coyote Brush Scrub < 0.01 < 0.01**Eucalyptus Grove** 2.07 0.06 0 0.06 Disturbed (grazed, rural residential, roadways) 19.66 5.63 0.84 6.47 68.86 ° 11.14 c 80.0 c **TOTAL** 204.5

Source: PCR Services Corporation, August 2005.

page 9 and Figure 6, Areas within Conservation Easement, attached). However, total restoration activities proposed on-site (2.8 acres of ACOE/RWQCB and 9.9 acres of CDFG) consist of: 1) Riparian enhancement – trash and sediment removal, exotic species removal, and minor replanting; 2) eucalyptus removal (including 0.05 acre of wetland creation within the upland); 3) Riparian restoration – more extensive revegetation; and 4) southern willow scrub preservation (Table 6, Summary of Restoration within Agua Hedionda Creek, on page 10).

All mitigation, with the exception of 2.3 acres of proposed riparian enhancement that occurs within existing easements, will be preserved in perpetuity. Areas that result in temporary impacts will be revegetated and restored to pre-construction conditions. In addition, indirect impacts to upland and wetland habitats will be minimized with the implementation of water quality protection and through the use of best management practices both during and after construction. A detailed Habitat Mitigation and Monitoring Plan/Water Quality Management Plan will be prepared and approved by the ACOE, USFWS, CDFG, and RWQCB prior to initiation of construction activities.

^a Lot, Road, & Trail Development (entire grading limit).

b Fuel modification zone impacts that extend beyond the grading limits.

^c Numbers represented as <0.01 were calculated using the actual data collected in the field and are represented in the Total.

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Table 4 **Summary of DCSS Mitigation**

Mitigation Type	On-site (acres)	Off-site (acres)
DCSS Revegetation	5.1	4.7 a
DCSS Slope Reconstruction	1.2	
Eucalyptus Removal	0.9	
Total DCSS Restoration	7.2	
DCSS Preservation without Restoration b	106.2	84.6 °
Total DCSS Mitigation	113.4	89.3

Source: PCR Services Corporation, October 19, 2005.

Table 5 **Summary of Compensatory Mitigation**

Mitigation Type	ACOE Mitigation on-site (acres)	CDFG Mitigation on-site (acres)	
Riparian Restoration	2.2	2.6	
Riparian Enhancement ^a	0.0	1.0	
Eucalyptus Removal	0.2	1.1	
Wetland Creation ^b	0.05	0.05	
Total Riparian Compensatory Mitigation ^c	2.4	4.7	

Does not include an additional 2.3 acres of enhancement excluded from conservation easement.

Source: PCR Services Corporation, October 19, 2005.

 ^a Off-site easement for wildlife corridor
 ^b Includes 2.7 acres of dirt trails within DCSS
 ^c Sum of Parcels D (61.8 acres) and NAP (22.8)

Acreage less than 0.1 is not counted in totals

The various jurisdictional acreages often overlap, i.e., ACOE acreage is typically included in CDFG, and therefore are not additive.

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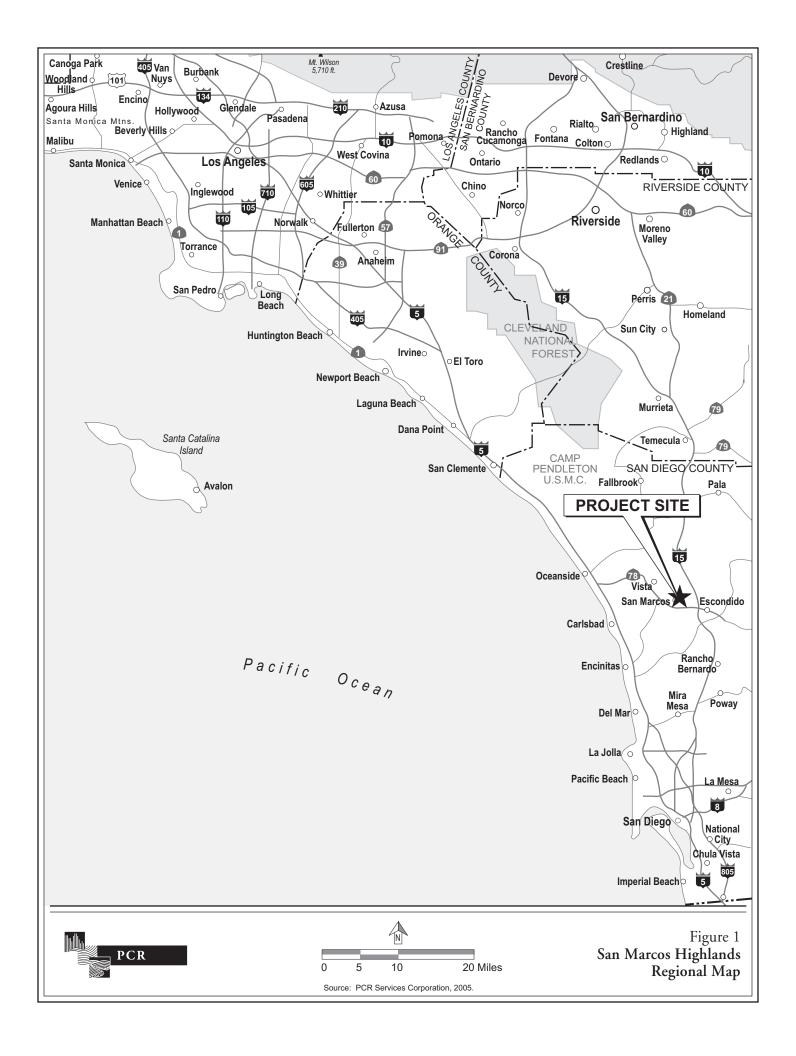
Table 6
Summary of Restoration within Agua Hedionda Creek

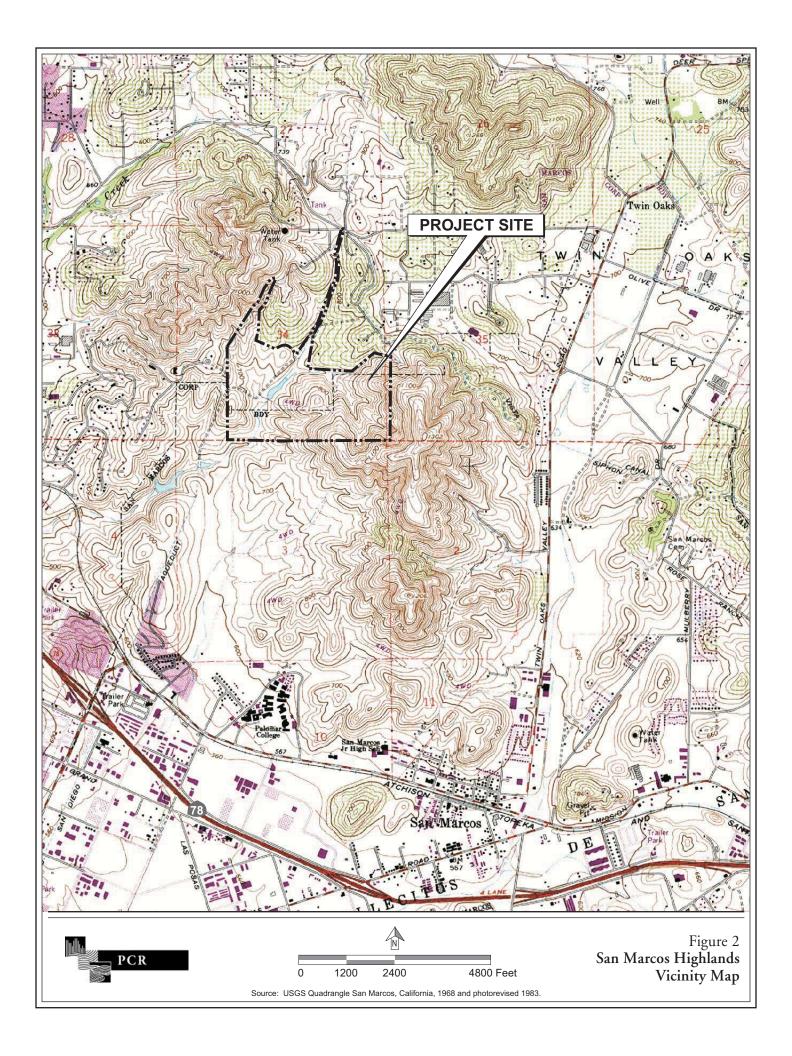
Mitigation Type	ACOE Mitigation on-site (acres)	CDFG Mitigation on-site (acres)
Riparian Restoration	2.2	2.6
Riparian Enhancement	0.0	1.0
Eucalyptus Removal	0.2	1.1
Wetland Creation ^a	0.05	0.05
Southern Willow Scrub Preservation	0.2	2.9
Total Riparian Mitigation within Conservation Easement Additional Riparian Enhancement	2.6	7.6
(excluded from Conservation. Esmnt.) Total Riparian Restoration b	0.2 2.8	2.3 9.9

^a Acreage less than 0.1 is not counted in totals

Source: PCR Services Corporation, October 19, 2005.

^b The various jurisdictional acreages often overlap, i.e., ACOE acreage is typically included in CDFG, and therefore are not additive.





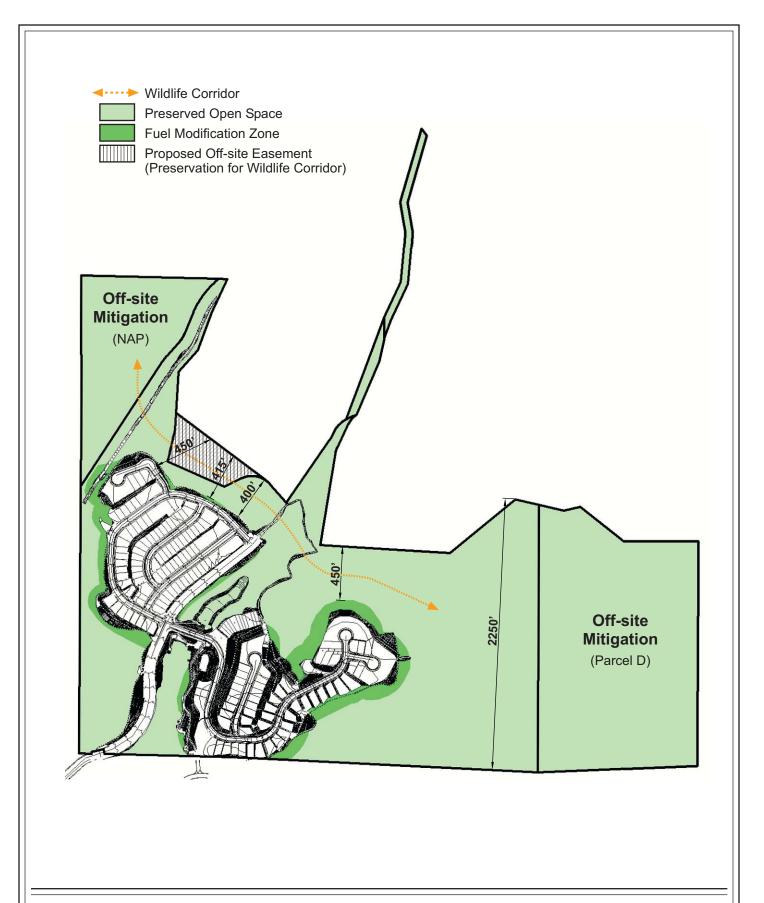
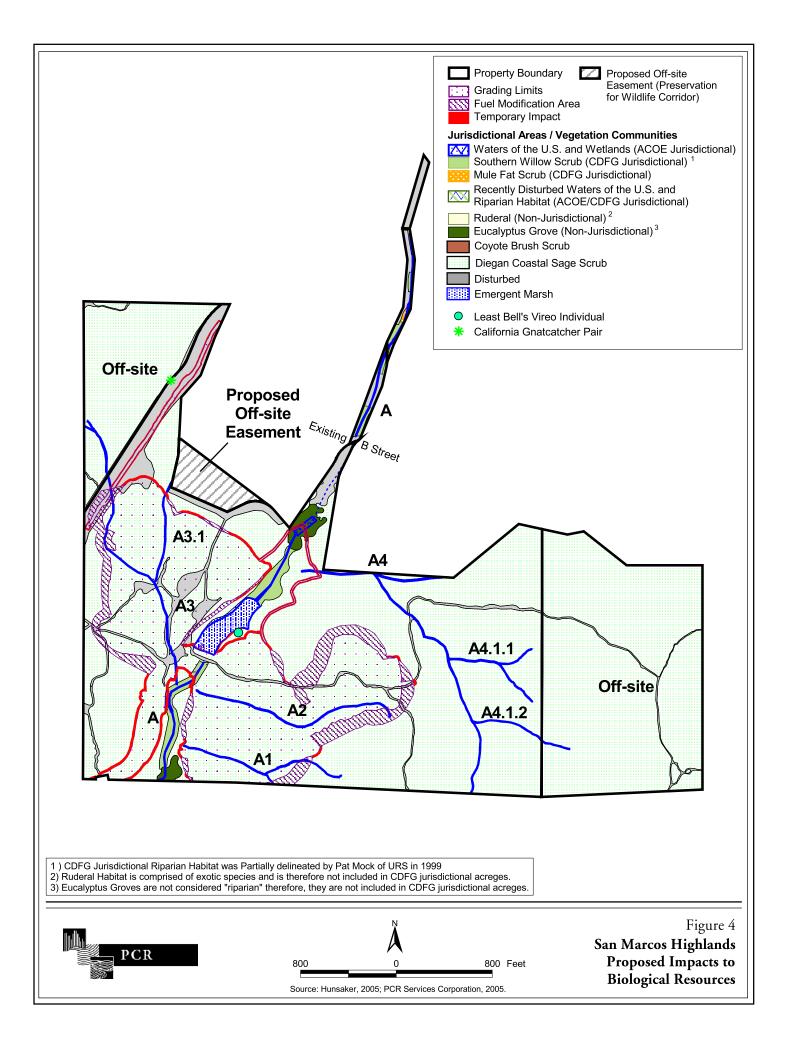
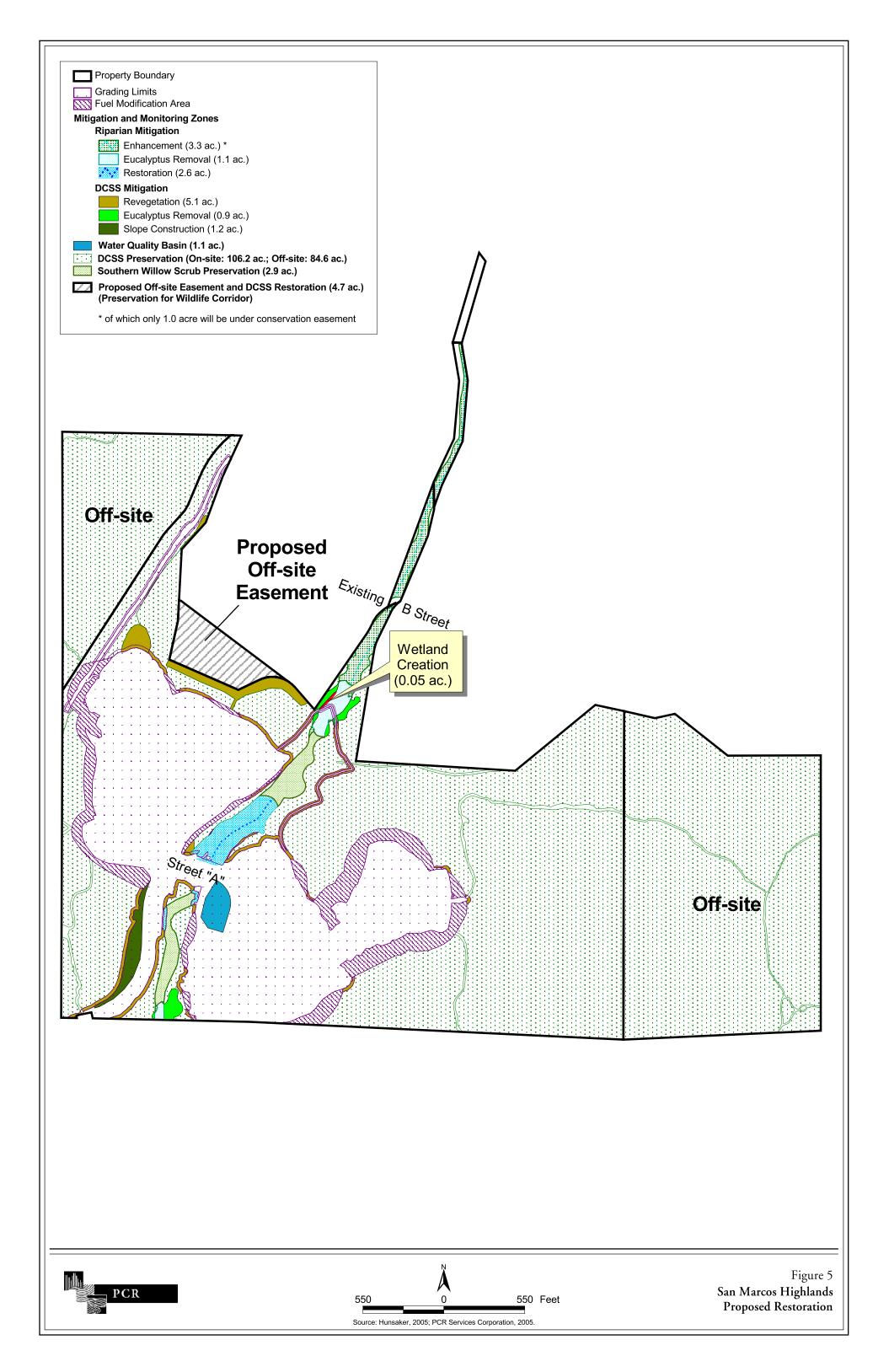


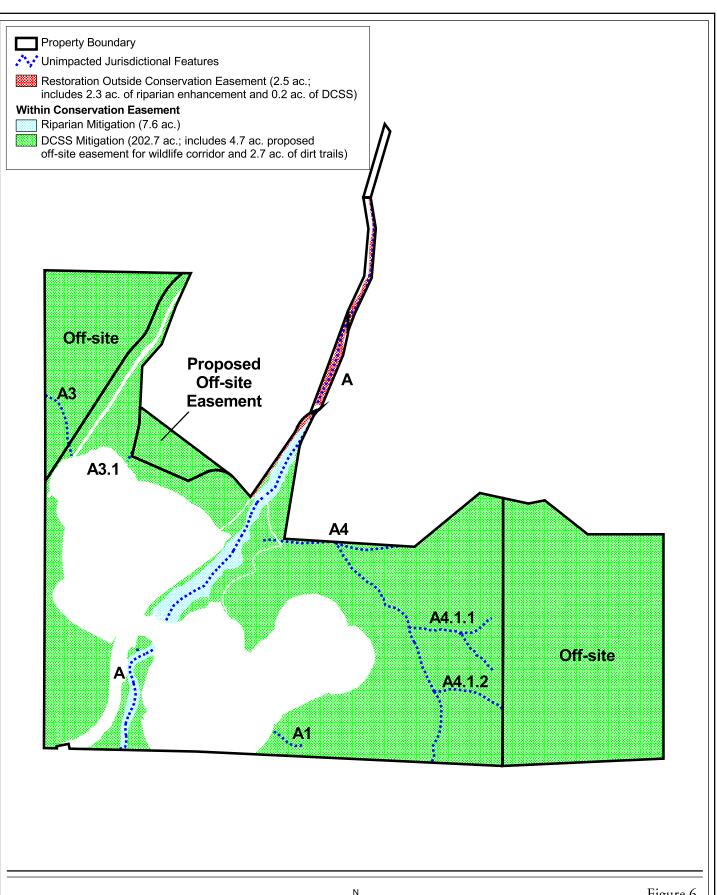




Figure 3 San Marcos Highlands Proposed Development Plan and Wildlife Corridor









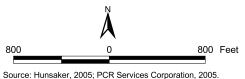


Figure 6
San Marcos Highlands
Areas within
Conservation Easement